VACC Austria Topsky Plugin 1.0

1. Introduction

The Topsky Plugin Version 2.2 has been created by Juha Holopainen. It is a very convincing replication of the state of the art ATC Software by Thales and Since Topsky is being used by Austrocontrol, it is a logical consequence that we integrate the plugin into our controller's base package.
As of now, the Topsky plugin for VACC Austria (henceforth simply called "plugin") is opt-in only, the current version may be downloaded from the VACC Austria forum in the Euroscope section. In the future it is planned to have the plugin integrated in the controller's package and activated by standard for all our APP and CTR controllers, but it may of course be used by TWR controllers as well if they so wish.

The plugin expands Euroscope by a number of new features and functions, some of which are being presented in this document. Others may be omitted, but feel free to either consult the official plugin manual by Jula Holopainen included in this package (layout B is the one used by VACC Austria) or just ask in the relevant thread in the VACC Austria forum.

2. Main Features

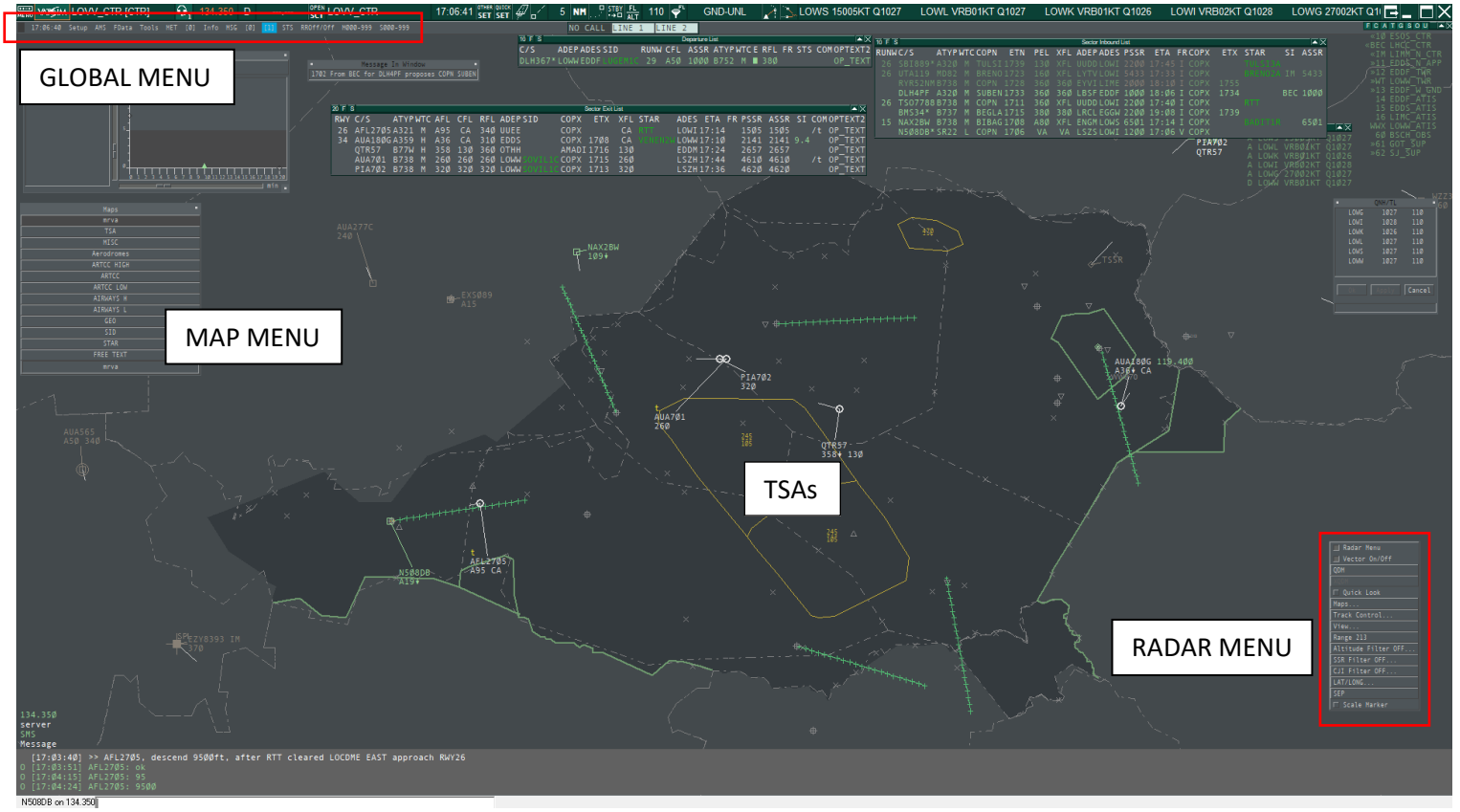
- Menus: Topsky features a lot of menus which may be invoked by either using the global menu on top of the air situation display (ASD, 'the radar screen'), the radar menu invoked by <right clicking> on the global menu, or the callsign menu which can be opened by clicking on the aircraft's callsign. These menus allow for a fast, context-oriented handling of aircraft in most of the situations.
- A completely new representation of data: The menus and windows of Euroscope are basically nothing alike a real ATC system – take the flightplan window for example: It is basically a plain Microsoft window. The plugin shows all the relevant (and not so relevant) data in menus and windows that have the same look, feel and functionality that you would have on the real Topsky system.
- MTDC: a fully functional 4D-MTCD (medium term conflict detection) is implemented, including a correct visual representation in the CARD window (more on that later).
- Safetynets: The plugin features fully customizable safetynets that are independent from Euroscope such as STCA (short term conflict alert), APW (area proximity warning), MSAW (minimum safe altitude warning – not yet implemented in the VACC Austria version) and AIW (airspace intrusion warning).
- TSAs: TSA stands for Temporary Segregated Area. They can be activated and deactivated either manually or by schedule. A standard schedule will be included in this package, allowing the TSAs to be (de-)activated according to AIP. These TSAs can either be restricted-, danger-, military-, or paraareas.
- Customized Labels: The Labels (LOVV_Topsky) are fully customized show all the relevant information a controller needs at any given time. The line 0, above the callsign, shows warnings, flags and other important information. Some of the new items include a clearance received flag for LOWW, that may be clicked away in order to indicate that the aircraft has received a STAR clearance. Another useful item is the RMK-indicator that shows a "+"-sign in line 0 whenever one of predefined trigger words is in the remarks box, such as "newbie".
- Automatic Squawk Assignment: The automatic squawk assignment allows for very complex rules, depending on flightrules (I/V), ADEP and ADES amongst other things. At this point in time only the local airport squawks are implemented, in the future automatic assignments of 0001 to VFR-departures will be possible.
- Euroscope Fallback: If at any point in time you have no idea how to invoke a certain action in the plugin, you can always use the appropriate Euroscope function.
- Full CPDLC Integration: CPDLC is fully integrated into the plugin utilizing the Hoppie-ACARS system.

3. Installation

- WARNING: This plugin alters your Euroscope installation massively. It is strongly recommended that you make a backup of your whole Euroscope folder.
- Extract content of .rar in the LOVV-Directory of Euroscope.
- In Euroscope go to:
    - Other SET → Plug Ins... → Load LOVV\Plugins\Topsky\Topsky.dll
    - Put TopSky plugin to top in the Plug-Ins Dialog → Set "Allowed to draw on types for all items on the right side
- In Euroscope general Settings:
    - Display Options:
        - Show route when accepting Off
        - Lock show route when accepting Off
        - Rotate radar target symbol Off
        - Rotate flight plan track symbol Off
        - Show CLAM warnings On
        - Show RAM warnings On
    - TAG display options:
        - Allow correlated aircraft tag untagged On
        - Allow concerned aircraft tag untagged Off
        - Allow assumed aircraft tag untagged Off
        - Show detailed over untagged On
    - Miscellaneous options:
        - Keep scratch pad content after direct On
    - Display settings dialog:
        - Number of history dots 0
        - Show leader lines Off
        - Set Tag family to LOVV_Topsky
    - Conflict Alert Settings Dialog:
        - Show lower altitude STCA Off
        - Show higher level STCA Off
        - Warn if vertical separation is less 0 feet
        - Warn if horizontal separation is less 0 nm

4. Using The Topsky Plugin

4.1. Overview



This is a sample screenshot of a normal Topsky workspace. The most important menus are the global menu and the radar menu. Also visible are the map menu (to be invoked from the radar menu) and some active TSAs (in yellow).

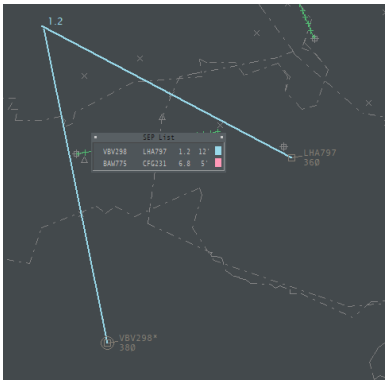
4.2. RADAR MENU

The radar menu is invoked by <RIGHT CLICKING> on the global menu**.** Also, the button next to the "Radar Menu" text should be clicked immediately afterwards so the menu does not close.

- Radar Menu
  This button allows the radar menu to stay open
- Vector On/Off
  This radiobutton allows you to switch on/off the vectors for all targets.
- QDM
  This button invokes a QDM to use between aircraft or between an aircraft and a point on the ASD. It measures distance, and if applicable, time and true track.

- Quick Look
  Deactivates all filters and displays all aircraft.

- Maps
  Opens the map menu. In this menu you can (de-)activate maps that are included in the sectorfile as well as custom made maps for the plugin. Maps can be activated by left-clicking and deactivated by right-clicking. Be advised, that activated custom maps are shown with a black background whereas sectorfile maps do not have such a status indicator. This is a limitation of Euroscope.
  The map menu can be kept open by clicking on the top right corner of the window.
- Track Control
  Allows the user to change vector length, number of history dots and size of the font as well as to display certain information in the unselected label (when the mouse cursor is not over the label). A useful application of this may be the display of ground speed for approach. A realistic standard setting is loaded upon startup.
- View
  The user may switch between views by left-clicking or may create his own by right-clicking on one of the numbers.
- Range
  Opens the zoom window. This is more or less cosmetical, since scrolling by using the mouse wheel still works in the plugin (which is not the case in the real Topsky).
- Altitude Filter
  Opens the altitude filtering window where the controller may select a lower and an upper filter for aircraft.
- SSR Filter
  Allows the controller to filter out certain squawks or squawk ranges. Not recommended.
- CJI Filter
  Allows the controller to filter out certain flights based on the controller who has the aircraft under control. May have its uses in congested areas.
- LAT/LONG
  Opens a window that displays the LAT/LONG of the cursor location.
- SEP
  Opens the SEP-Tool. This tool allows the user to measure the minimum distance between two aircraft based on current track and speed. It does not account for routing and speed changes. Multiple SEPs may be invoked (up to three). A click on the colored box in the SEP List deletes a SEP.



- Scale Marker
  Displays a scale marker in the lower right corner of the ASD.

4.3. The GLOBAL MENU

The Global Menu is the menu on the top of the ASD.

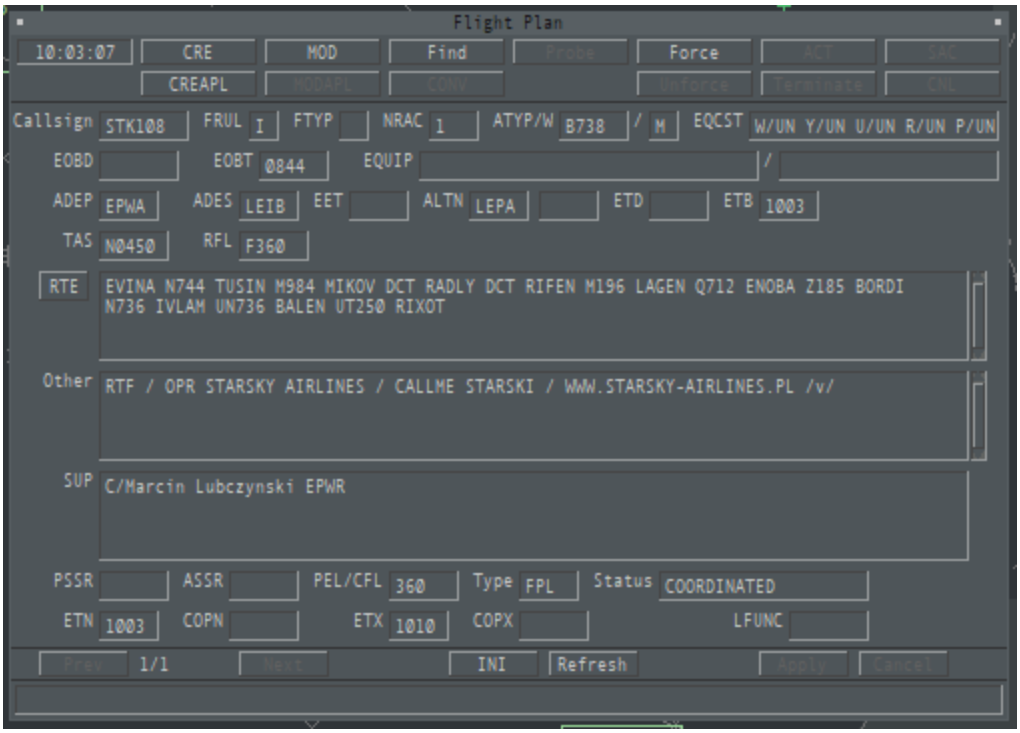
- Setup
- Default Setting
  Resets all settings done by the controller to default (startup state)
- Local Settings
  Allows to change certain client related settings to the controller's liking. Normally these should fit to all stations, but feel free to play around with them.
- Brightness Control
  Allows the user to change certain colorshades.
- CPDLC Setting
  Logon to Hoppies CPDLC Network. Refer to the data link manual for details.
- FPASD
  Toggles the display of FPASD tracks (calculated flightplan tracks).
- PDC/CPDLC Audible Alarm
  Toggles the sound when an incoming PDC/CPDLC message was received.
- Flight Leg
  Toggles the automatic display of the flight leg when a track becomes assumed. The flight leg will be automatically hidden after a specified time.
- DAPs ind Menus/Labels
  Currently no function.
- RR Main
  Opens the range rings submenu.

4.4. AMS

- TSA…
  Opens the TSA Window. This window is used for the activation and deactivation of the areas for the APW and SAP functionality. Each area can have a start time and/or an end time defined for its activation, or it can be activated without any time limits, making it active until deactivated manually. Additionally, lower and upper altitude limits are given. An area can have activation schedules defined in the area data file. Such areas will be automatically activated as long as their "Auto" option is selected.
  Dates will be shown in the format "yymmdd" and times in "hh:mm" and they must be entered in the same format. Entering an empty string for a date will clear it and the related time value and vice versa. When entering a time or date value to an empty field, the other value is automatically set to the current time/date value. Entering an empty string to the Map Text, Lower or Upper fields will reset the value to the default one from the data file. Altitudes are shown in hundreds of feet (or in meters+"m" if metric units chosen) if at or below the transition altitude, otherwise in flight levels (or meters standard+"m"). They must be entered in the same format ("m" character optional with meters). An area's activation status can be inactive, pre-active or active. A pre-active area is an area that will become active within a specified time (10min by default) and is shown with "Selected Period" color text on a "TSA Preactive" color background. An active area is shown with "Selected Period" color text on a "TSA Active" background. The APW system will not alert for a pre-active area, but for the SAP system a preactive area is considered as being active.
  To manually activate an area, right-click on the area's name, click activate and APPLY.

4.5. FData

- Flight Plan Selection Window
  The Flight Plan Selection window is used to search for flight plans based on any combination of callsign, assigned transponder code and departure airport.
- Flight Plan Window
  The Flight Plan Window displays flight plan data as well as some system data related to the flight plan. It also allows creating new flight plans and modifying existing ones. The data in the window is not refreshed automatically; the time when the data was fetched is displayed in the top left corner.



The flight plan window displays the following information:
Callsign: Callsign of the aircraft
FRUL: Flight rules (I, V, Y or Z)
FTYP: N/A
NRAC: Number of Aircraft
ATYP/W: Aircraft type and WTC
EQCST: Displays aircraft equipment status for certain equipment (W, Y, U, R and P). EQ: Equipped, NO: Not equipped, UN: unknown.
EOBD: Estimated off-block date.
EOBT: Estimated off-block time.
EQUIP: Equipment list (translation from the FAA equipment suffix). During creation and modifying, the field will show the FAA suffix.
ADEP: Departure aerodrome.
ADES: Destination aerodrome.
EET: Estimated elapsed time.
ALTN: Alternate aerodrome.
ETD: Estimated time of departure.
ETB: Estimated time to enter your sector.
TAS: True airspeed.
RFL: Requested flightlevel.

RTE: Route.
Other: Flight plan remarks field.
SUP: Supplementary information (endurance, PIC).
PSSR: Previous SSR code.
ASSR: Assigned SSR code.
PEL/CFL: Planned entry level or cleared flightlevel, depending on flight's state.
Type: Type of plan (APL or FPL)
Status: Status of the flightplan.
ETN: Estimated time to COPN.
COPN: Entry coordination point.
ETX: Estimated time to COPX.
COPX: Exit coordination point.
LFUNC: Controller who is currently tracking the aircraft.
1/1: Number of the displayed FPL in the list.

The following buttons are available:
CRE: Create a new flightplan.
MOD: Modify the currently displayed flightplan.
Find: Find a flightplan.
Probe: N/A
Force: Forces the aircraft to be included in the MTCD and SAP processing regardless of its sector state or any inhibition settings in MTCD status window.
ACT: N/A
SAC: Enter a slot time.
CREAPL: Create a new abbreviated flight plan (APL).
MODAPL: Modify the currently displayed APL.
CONV: Convert an APL to an FPL.
Unforce: Cancel the forced inclusion of this aircraft in the MTCD and SAP processing.
Terminate: N/A
CNL: N/A
RTE: Opens the complete route window.
Prev/Next: Selects the previous/next flightplan in the list.
INI: View the initial flightplan.
Refresh: Refreshes the displayed information.
Apply: Applies the changes that were made.
Cancel: Cancel the current operation.

4.6. Tools

- Flight plan lists → Lost List
  This list includes assumed flights that have been correlated to a radar track but radar contact has been lost. This list opens automatically whenever an aircraft is added to it.
- CARD
  Opens the conflict and risk display. This is the heart of the MTCD and shows the controller all conflicts that an assumed aircraft in involved with. It is divided into two parts:
  On the left is a list of all conflicts and risks. Conflicts are colored in red, whereas risks are colored in yellow. Hovering over the conflict will display the conflict on the radar screen.
  On the right is a graphical display that gives you an overview over the severity and timeframe of a conflict. The x-axis shows the time, when a conflict will happen, whereas the y-axis shows

the minimum distance between aircraft.
This window should be kept open for CTR controllers at all time. This window may be omitted for APP controllers.

- SAP
  Opens the SAP window. This window lists all the aircraft, which are about to enter a TSA that has SAP activated, including the area it is about to enter and the time at which this will happen.
- Vertical Aid Window
  The VAW shows the predicted vertical trajectory of the selected aircraft (ASEL), starting from its current position and all aircraft conflicting with it.
- Message In/Message Out
  These two windows show received and sent coordination messages from/to other units. Incoming messages may be answered directly from the message in window and obsolete messages may be removed my left-clicking them. These windows should be kept open at all times.
- CPDLC →
  Open the current / historic CPDLC messages. For details refer to the data link manual.
- LAT/LONG
  Opens the LAT/LONG Window.

4.7. MET

- Messages
  The Weather Messages Window displays weather related messages. By default, with the "METAR/SPECI" option button chosen, this window displays the METARs you have requested from the VATSIM server (i.e. [F2]) and any METARs EuroScope requests automatically. Whenever a new METAR is received from the server it is added to the list (an old METAR is removed when a newer one is received from the same station). New METARs are displayed in yellow until the mouse cursor is positioned on them (for the decoded METAR, this applies only for the first row).
  In addition, the window can display SIGMETs and TAFs. The SIGMETs are retrieved when the "SIGMET" button is selected for the first time, and are then updated at one hour intervals. Selecting the "TAF" option will open the Aerodrome menu where the desired stations must be selected. TAF data is never updated automatically; to get updated forecasts the TAF option (and the stations) must be selected again.
- QNH/TL
  Opens the QNH/TL Window. The window displays the QNH values and corresponding transition levels for those airports that have a METAR displayed in the Weather Messages Window. The buttons in the window have no functionality.

4.8. [0]

Always zero. Not used in the plugin.

4.9. Info

- General Information
  The general information window displays basic information on the system state.
  Mode: "Free", "Operational", "Proxy", "Replay" or "Training" depending on connection.
  Role: Shows own controller ID

Alert function labels: Status of the alert functions. Shown in yellow if an alert function is U/S.
FPASD: Displays the state of the FPASD setting.

- NOTAM
  The NOTAM List Window displays a list of received NOTAMs. The NOTAMs are retrieved when the window is first opened and the list will take a couple of seconds to populate. The NOTAMs are automatically updated every three hours. To see the actual NOTAM contents, left-click on a NOTAM line. To return back to the NOTAM list, left-click on the single NOTAM.
- Aerodrome
  The Aerodrome Window displays information about the selected airport. The bottom part of the window displays the arrival and departure runway allocation at the selected airport. The runway selections are read-only in this window.
- LFUNC Frequency Plan
  Opens the LFUNC Frequency Plan window. This window gives an overview of all online ATC stations in range and their CPDLC logon if available.
- Labels
  If activated, a label will be displayed then hovering with the mouse over an airport/fix/NDB/VOR.

4.10. MSG

- Notepad
  The Notepad Windows can be used to display any user entered text. Multiple Notepad Windows can be opened simultaneously. To enter new text or edit the existing one, click on the window area. The text will be automatically wrapped, it is not possible to force line breaks. If the window is not large enough to fit all the entered text, it will display "…" in the end to indicate that there is more information.
- Personal Queue
  The Personal Queue Window displays warning messages related to the plugin's operation: high priority messages informing about potential critical failures in the plugin code, and low priority messages informing about faults in the plugin's external data files or timeout alerts for coordination messages.
- ATC Messages
  Displays the content of the VATSIM ATC-chat.
- Prim Freq Messages
  Alternative to the Euroscope built-in Frequency chat window.
- Text Notes
  It is possible to insert text notes on the radar screen to act as reminders. They will stay fixed at the geographical coordinates they are inserted to, the coordinates defining the center point of the note.

4.11. [x] (number in square brackets)

Shows the number of high priority messages in the personal message queue. These are critical failures in the plugin code. Open the Personal Queue Window to view the messages. The number is limited to 99, and is shown on "Global Menu Highlight" background when the window is not open.

4.12. [x] (number in square brackets)

Shows the number of low priority messages in the personal message queue. These are warnings about invalid data in the plugin data files. Open the Personal Queue Window to view the messages or see the Plugin Status submenu for more detailed information on the problem(s). The number is

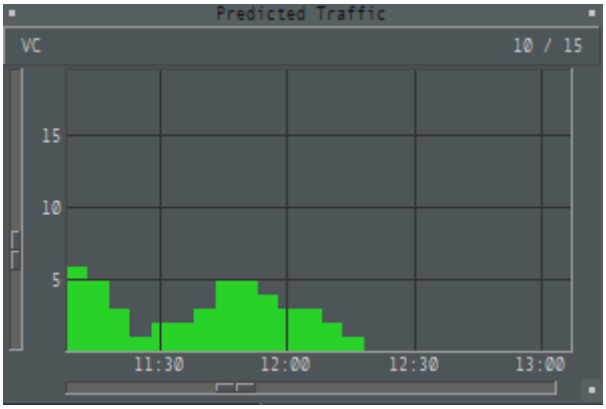
limited to 99, and is shown on “Global Menu Highlight” background when the window is not open.

4.13. STS

- Plugin Status
  Shows data about the plugin status, should not be used during controlling.
- Safety Net Status
  Allows setting the status for the STCA, MSAW, APW and AIW systems. The “On/Off” buttons control the corresponding system’s status. Below them, there are four entry boxes for callsigns to exclude specific callsigns from the listed safety nets. The “*” wildcard can be used to match multiple callsigns. It causes all the callsigns that match up to the “*” to be a match (i.e. “ABC*” will match all callsigns that start with “ABC”, but “*ABC” will match all callsigns as any characters after the “*” will be ignored). Below the callsign fields, there are four SSR code boxes that can be used to exclude specific SSR codes from the listed safety nets. The entered values must be 1-4 octal digits, and the system will match the number of digits entered (i.e. “2000” will match only code 2000, whereas “20” will match all codes in the range 2000- 2077). If there are STCA inhibition areas defined in the area data file, they will be listed in the area in the bottom part of the window. The area vertical limits (displayed in 100’s of feet or meters+”m” depending on system units) can be edited by clicking on the values, and the area activation can be toggled by clicking on the area status.
- Divergence Detection Status
  Allows setting the status for the RAM and CLAM alerting. The “On/Off” buttons control the corresponding system’s status. All changes must be applied using the buttons below to take effect.
- MTCD Status Window
  Allows setting the status for the MTCD system. The “On/Off” button controls the system’s status.
  If there are MTCD inhibition areas defined in the area data file, they will be listed in the area below the “On/Off” button. The area vertical limits (displayed in 100’s of feet or meters+”m” depending on system units) can be edited by clicking on the values, and the area activation can be toggled by clicking on the area status.
  The rest of the inhibition settings affect both MTCD and SAP systems:
  Below the inhibit areas, there are four SSR code boxes that can be used to exclude specific SSR codes from MTCD/SAP processing. The entered values must be 1-2 octal digits, and the system will match the number of digits entered (i.e. “2” will match codes 2000-2777, whereas “20” will match codes 2000-2077).
  Below the SSR codes, there are four ATYP boxes to exclude specific aircraft types. The entered text strings must be exact ICAO aircraft type designators (no partial matches or wildcards).
- Runway In Use
  The Runway In Use Window displays the arrival and departure runway allocation at the selected airport. Left-clicking on the airport ICAO code opens the Aerodrome menu to select another airport. The runway selections are read-only in this window. Runway designations have to be made in the Euroscope “Active airport/runway selector dialog”.
- Supervisory → Operations Rate Window
  The Operations Rate Window displays the predicted hourly operations rate at a specified airport. The data is displayed in 5 minute steps and shown up to 5 hours into the future. The arrival prediction is based on aircraft tracks as calculated by EuroScope. The departures are predicted to depart in the next 5 minutes if their ground status is set to “DEPA”, in 5-10

minutes if “TAXI” and in 10-15 minutes if “PUSH”. A number of these windows can be opened to simultaneously view multiple combinations of airport, departure/arrival state and runway(s).
In the area below the title bar, on the left is the ICAO identifier of the airport whose traffic is being monitored (a gray label “ICAO” is shown if no airport is selected yet). The “Dep” and “Arr” buttons control whether departures and/or arrivals should be shown on the display (button background is shown in “Selected” color if selected on). The “RWY” label allows entering one or more runway identifiers to filter traffic based on the assigned runway.

- Supervisory → Predicted Traffic
  The Predicted Traffic Window shows the number of aircraft that are predicted to be inside a specified controller’s airspace. The data is displayed in 5 minute steps and shown up to 5 hours into the future. The prediction is based on the sector ownership and the aircraft tracks are as calculated by EuroScope. A number of these windows can be opened to simultaneously view multiple controllers’ situation. In the area below the title bar, the left side shows the controller ID whose traffic is being monitored (a gray label “ID” is shown if no controller ID is selected yet). Left-click on the text to enter a new ID. The numbers on the right side are the caution and warning limits. To change them, left-click on them and re-enter in the same format (warning can’t be lower than caution; numbers must be separated by a forward slash). The traffic numbers are color coded so that a number at or below the caution limit will be shown in “Information” color, a number above that but at or below the warning limit in “Warning” and a number above that in “Urgency”. The two sliders change the traffic number and time scales.



- Runway Line Display
  The window contains selection buttons to toggle the display of the approach lines for the airport’s runways, and a listing of the currently active runways for the airport. The “ARR RWL DISPLAY” option toggles the automatic display of all approach lines for runways that are selected active for arrival. The setting is global for all airports.

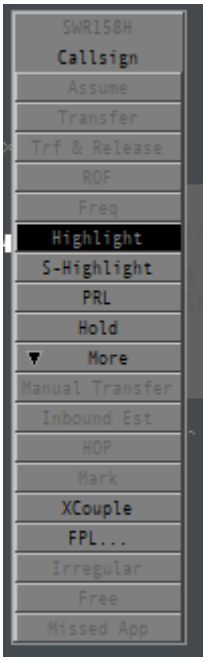
4.14. RROff/Off

Displays the status of the range rings and opens the range rings menu.

4.15. M000-999

Opens the altitude filtering window.

5. Callsign Menu



This menu are invoked by clicking on the callsign from either the label or any list. Menu items shown with (X) represent an item that has an activated and a deactivated state. With the item activated, the item name is shown prefixed with the letter "X".

5.1. Assume
Assumes a track.

5.2. Transfer
Initiates a transfer to the next sector

5.3. Trf & Release
Opens the transfer & release menu.
The Transfer & Release menu allows specifying a release condition for a track to be transferred. The transfer is initiated after selecting the desired condition (climb, descent, turn or full). The release will be shown on line 0 of the track label (C for climb, D for descent, T for turn and F for full). The transferring controller will see the label item until the track becomes unconcerned. The receiving controller will see the item for 3 minutes after the track is assumed.
Warning: The "Trf & Release" option will show the release condition on the downstream side only if the next controller is using this plugin, in other cases the transfer will be shown as a normal transfer.

5.4. ROF
Sends a request on frequency message.
The ROF message can be used to send a request to the controller currently tracking an aircraft to transfer it to your frequency. For the message to succeed, you must be seen as the next controller for the tracking controller. When sent, the text "ROF" is displayed in the track label on the tracking controller's screen.
Warning: The "ROF" message is a feature specific to this plugin. It is an experimental feature and is not guaranteed to work all the time. When you send the message, check that it's sent properly.

5.5. (X)Freq
Toggles the Freq indicator. This may be used if a pilot is leaving the frequency temporarily.

5.6. (X)Highlight
Toggles the callsign highlight

5.7. (X)S-Highlight
Toggles the callsign+AFL highlight

5.8. PRL
Toggles the prediction line menu. The Prediction Line menu allows displaying a PRL with a specific length for each aircraft even if the PRL selection is off in the Radar Menu.

5.9. (X)Hold
Hold: opens the hold menu.
The Hold menu allows you to enter a holding clearance (add the aircraft to the holding list). It displays for selection the points in the aircraft's route that are ahead of its current position. Left-clicking "Here" enters the present position coordinates as the holding point, right-clicking opens a text entry box to enter any holding point name. The holding point is automatically sent to your other EuroScope instances with a small delay and can be sent to other controllers by pushing the flight strip as the information is stored there.
XHold: cancels a given holding clearance.

5.10. Δ More

Shows additional, less frequent used options

5.11. Manual transfer

Opens the manual transfer window. The Manual Transfer menu allows transferring the aircraft to any controller. In the SCHEDULED list are the controllers that are in the current sector sequence sorted in the order the aircraft is planned to enter the controllers' sectors, with the next controller being the default item. When opened, the "More" list displays all the other controllers for selection. Click on a controller ID to start the transfer.

5.12. (X)Inbound Est

Toggles the Inbound Est manual alert. "EST" will be displayed in line 0.

5.13. HOP

Initiates a handover proposal.

A Handover Proposal can be used to propose non-standard transfer parameters (AHDG/Direct-to and ASP) to the next sector. For the receiving controller a HOP is identified by coloring the callsign data field with "Proposition" color in the label. For the sending controller the Callsign field remains "Assumed" color and the Sector Indicator field is shown in "Proposition" color. Additionally, if there are proposed parameters they are also colored "Proposition" in both controllers' labels.

There are three ways to answer a HOP and all of them involve accepting all proposed parameters. If one or more parameters are not acceptable, coordination must be done to find acceptable parameters or to revert to standard ones. It is pssible to accept a HOP the following ways:

Assume → Assumes the track

ROF → Sends a request on frequency message

Accept → Sends an accept message.

If the parameters are unacceptable to the receiving controller, the sending controller has the possibility to modify or clear them using the appropriate menus, or to cancel the whole HOP by assuming the track.

Warning: A HOP will only be shown correctly for controllers using this plugin. To other controllers it will be shown as a normal transfer without any special coloring of any data fields. This combined with the three possible ways to answer the HOP require the sending controller to pay special attention to the track to see what the result is.

Warning: If a HOP is sent to a manually selected controller, the next controller selection will be reset to the automatically calculated controller when an "ROF" or "Accept" answer is received. The correct controller must then be manually selected again for the transfer.

5.14. (X)Mark

Toggles the mark indicator. (Green dot in line 0).

5.15. (X)Couple

Uncorrelates/correlates the flight plan.

5.16. FPL

Opens the flight plan window.

5.17. (X)Irregular

Toggles the irregular manual alert. "IRR" will be displayed in line 0. May be used to indicate a pilot that need special attention.

5.18. Free

Releases track.

5.19. (X)Missed App

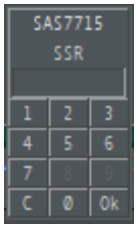
Toggles the missed approach manual alert. "MAPP" will be displayed in line 0 to indicate the aircraft is performing a missed approach.

6. List Features

6.1. The Sector Inbound List, the Sector Exit list and the Departure List have been adapted so that the same Topsky features may be accessed by clicking on the appropriate fields. Additional features are explained below.

6.2. ASSR Allocation

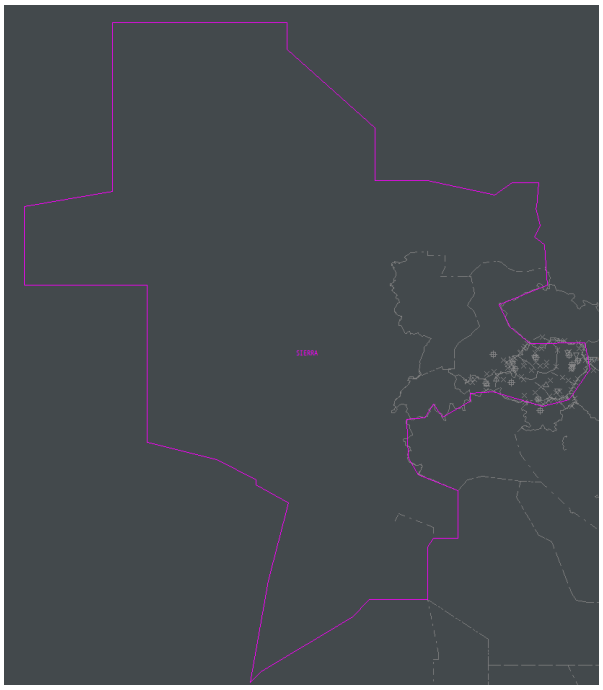
Upon clicking on either the PSSR or the ASSR of a flight in either list, the ASSR-assignment window is opened. The controller may enter a code manually or can let the system assign a squawk code automatically.



To have a squawk assigned automatically, the SSR-field needs to be empty and the Ok button must be pressed. To clear an already entered squawk, use the C button.

Squawk assignment rules are as follows:

- For IFR flights departing any Austrian airport, the local squawk range will be assigned.
- For IFR flights inflight, not departing an Austrian airport, squawk 4000-4077 will be assigned.
- For VFR flights departing any Austrian controlled airport, squawks 0001-0007 will be assigned.
- For VFR flights arriving at any Austrian controlled airport, squawks 0010-0017 will be assigned.
- For VFR flights under the control of LOVV_XXX, 1550-1557 will be assigned.
- For VFR flights under the control of LOWW_XXX and not departing LOWW, 1530-1537 will be assigned.
- For ALL IFR flights that are Mode-S equipped and that are never leaving the Mode-S area shown below on their flightplan, the Mode-S conspicuity code 1000 will be assigned.



6.3. PDC clearance indicator

If the controller receives a PDC request, the clearance indicator in the Departure List will become a yellow “A”. A right-click on that indicator initiates the PDC-clearance. For Details on the PDC refer to the data link-manual contained within the plugin-package.

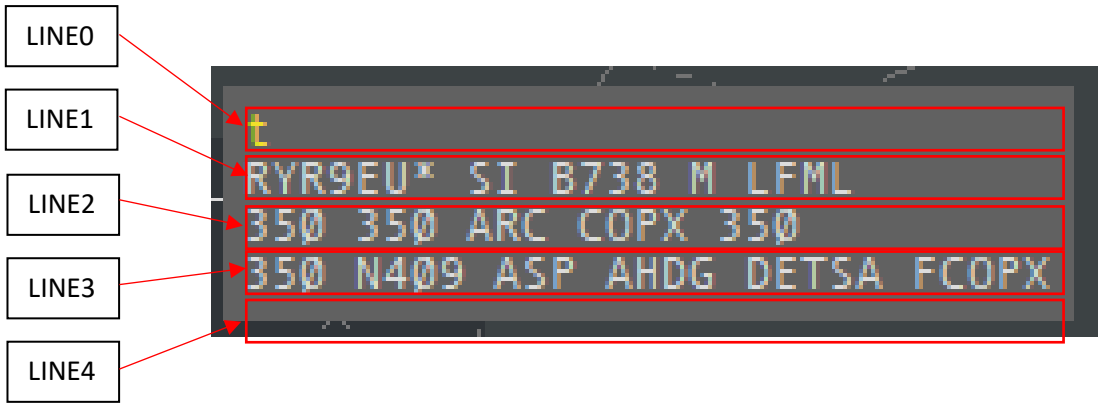
7. CPDLC

7.1. For details on CPDLC usage refer to the data link manual contained within the plugin package.

8. The Label

The label has been designed to be as close to the real counterpart as possible while maintaining usefulness on VATSIM.

The TAG family to be used with the plugin is called “LOVV_Topsky”. It is mandatory to use this family when using the plugin since many functions may not be available otherwise.



- Line0
  Line0 shows alerts, notifications and indicators depending on the situation the flight is in. The list of items that can be shown here is too long to cover in this manual, but amongst them there are:
  - Inbound clearance indicator – a green C that is displayed when an aircraft in inbound to LOWW to indicate that a STAR clearance has to be given.
  - ASSR if a new squawk needs to be assigned. Left click opens the ASSR menu, right-click hides the item.
  - MSAW indicator. Right-click hides the item.
  - Release indicator. Shows if a release has been given or received.
  - AWP indicator. Right-click hides the item.
  - No RVSM-capability indicator. Right-click hides the item.
  - No 8.33 kHz indicator. Right-click hides the item.
  - No B-RNAV indicator. Right-click hides the item.
  - No P-RNAV indicator. Right-click hides the item.
  - MTCD indicator (red dot). Indicates that the aircraft is involved into an MTCD conflict. Refer to the CARD window for details.
  - Mark/Freq indicator (colored dots).
  - Field 18 indicator. Displays a + if one of certain triggerwords is present in the remark section, such as STS/, newbie or beginner. Left-click opens the FPL window, right-click opens the extended tag.
  - CLAM warning. Right-click hides the item.
  - Manual coordination flag. Either click accepts the manual coordination.
  - Coordination messages. Left-click opens the tactical transfer menu, right-click opens the tactical info window.
  - Emergency status.
  - Manual alerts indicator. Left-click opens the manual alerts menu, right-click hides the item.

    - Communication type indicator (text-pilot). Left-click opens the communication type popup, right-click hides the item.
    - OP-TEXT2. A free text that can be set by the controller. Either click edits the OP-TEXT2.
- Line1 `RYR9EU* SI B738 M LFML`
    - Callsign
      The callsign of the aircraft.
      Left-click: Open callsign menu.
      Right-click: Open extended tag.
    - Sector indicator
      The sector indicator of the next sector or the upstream sector.
      Left-click: Open next controller popup list.
      Right-click: Toggle display of next sector frequency.
    - Aircraft type and wake turbulence category
      Left-click: N/A
      Right-click: N/A
    - Destination
      Left-click: Open flightplan window.
      Right-click: Toggle route draw.
    - Extended label only:
        - Callsign RTF name

- Line2 `350 350 ARC COPX 350`
    - Actual flightlevel
      Left-click: N/A
      Right-click: N/A
    - Vertical speed indicator
      Left-click: N/A
      Right-click:N/A
    - CFL/PEL
      Cleared flightlevel if assumed or if not assumed and hovering over the label using the mouse, planned entry level if not yet assumed.
      Left-click: Open CFL/PEL menu
      Right-click: Open Euroscope temporary altitude popup list – this is to be used when handling text-pilots as this will automatically generate a text message.
    - Assigned Rate
      Left-click: Open ARC menu
      Right-click: N/A
    - COPN/COPX
      Entry COP if not yet assumed, sector exit COP if assumed.
      Left-click: Open waypoint menu.
      Right-click: Toggle route draw.
    - RFL
      Requested flightlevel
      Left-click: Open RFL menu
      Right-click: N/A
    - Extended Label only:
        - Departure
        - Requested flightlevel

        - Destination
        - Alternate 1

- Line3 `350 N409 ASP AHDG DETSA FCOPX`
    - XFL
      Exit flightlevel
      Left-click: Open altitude coordination list.
      Right-click: Open COPX point coordination list.
    - Groundspeed
      Left-click: N/A
      Right-click: N/A
    - ASP
      Assigned speed
      Left-click: Open ASP menu
      Right-click: Clear ASP value
    - AHDG
      Assigned heading
      Left-click: Open AHDG menu
      Right-click: Open Euroscope assigned heading popup list – this is to be used when handling text-pilots as this will automatically generate a text message.
    - Next Point
      Shows the next point in the pilots route
      Left-click: Open waypoint menu
      Right-click: Toggle route draw
    - FIR COPX
      Shows the exit point of the FIR
      Left-click: Open waypoint menu
      Right-click: Toggle route draw
    - Extended label only:
        - TSSR: Squawk currently set by the pilot
        - Mode-S flightID

- Line4
    - Mode-S downlinked ground speed if available.
    - Mode-S downlinked true track if available.
    - Computed rate of climb.

- Line5 and beyond (extended label only):
    - Remarks and OP-TEXT2